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Closing the Slippery Slope from a 14-Day Rule to an N-Day Rule:

Balancing Bioethics with Moral Principles in Deliberations on the Permissibility of Scientific Experimentation with Embryonic Human Beings

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Introduction

A common point of contention in bioethics discourse is whether a metaphorical "slippery slope" exists for human experimentation that is allowed despite moral objections from some members of the public, including scientists. Scientists and their affiliated bioethicists who promote controversial research assure the public that, if they are allowed to proceed with human experimentation that is morally objectionable for some, their future research will not, as a result, progress further to human-subjects research that is even more morally troubling. They often scoff that opponents' warnings – that allowing the controversial research will put society on a harder-to-stop slide downward to even worse abuse and exploitation – are only a debate device, and not potential realities calling for serious attention or concern. The current moment in the history of research with embryonic human beings confirms quite definitively that slippery slope warnings are not just a contrived debate strategy. They are valid and instructive concerns that must be heeded to save humanity from falling into the temptation of allowing horrific depravities to occur based on the justification that they are for the sake of promised benefits of medical research.

The "14-day rule" is an ethics agreement, generally adopted and accepted by scientists pursuing experimentation with embryonic human beings as research subjects. As will be described in detail later in this article, its origin dates back to 1984. The basic agreement is that scientists are allowed to conduct laboratory experiments that involve the growth and development of embryonic human beings up until 14 days of maturation after fertilization. The 14-day limit is related to the approximate time in normal human embryonic development when structures appear in developing human beings that are the earliest stages of the formation of the nervous system. This ethics agreement is the warned slippery slope of allowing experimentation on embryonic human beings at any stage of their life. The moral position was for a "0-day" rule. It called for an ethics agreement that experimentation with nascent human beings, who due to their young age of development could not give informed consent, was morally unacceptable and therefore ethically impermissible.

The establishment of the 14-day rule *per se* was, and continues to be, a typical false dichotomy. It was presented by scientists wanting to conduct experiments with embryonic human beings as a better solution than having no limit at all. All sorts of irrelevant arguments were made to rationalize why stopping early at 14 days of development was more humane to the experimental subjects by, for example, intervening before pain or self-awareness might be experienced. Of course, such now storied debates served, and continue to serve, to distract from the more significant moral issue, which was, "What right

did anyone have to experiment on another human being for any reason other than one intended to benefit the subject of the experimentation?" Even the possible scenario of intent to benefit the experimental subject must be limited by the potential for harm. The 14-day rule false dichotomy successfully diverted attention from the moral alternative of leaving human embryos alone altogether, a 0-day rule.

Groups opposing the feigned ethical 14-day rule warned that it was a slippery slope to worse abuses of nascent human lives in the future. As will be discussed later, even this window of limitation exposed many thousands of embryonic human beings to pronounced *ethical* destruction and death when human embryo research achieved technologies for producing human embryonic stem cells (hESCs) in 1998. The biotechnological advance of hESC production is a direct outgrowth of the 14-day rule, which fostered research with embryonic human beings produced by *in vitro* fertilization (IVF) for assisted reproduction. Few may have recognized that the development of hESCs and the global discord it caused – because of the many human deaths required for their production and research – was a first major slide down the 14-day rule slope. Although hESC research was based on a much earlier stage of human development, the 14-day rule made its ethical permissibility arguable even if it were not morally acceptable for many.

As will be described, in both direct and indirect ways, the downward sliding of hESC research set the momentum for scientific organizations' recent moves to extend the false dichotomy of the 14-day rule to the new horrific moral trespass of *no limit at all* (1). Once again, the continuing march of scientific knowledge and technology is the initiating factor. An understated basis for acquiescence to the 14-day rule is that, at the time of its adoption, technologies that supported the normal growth and development of embryonic human beings in the laboratory were quite rudimentary and ineffective. Scientists were actually not concerned about anyone being able to progress nascent human beings to the 14-day stage of development, let alone past it. However, in 2021, all of this changed. Not only did scientists discover that they could achieve maturation to the 14-day limit, but they were also able to do so with nascent human beings that had been genetically and cellularly engineered in the laboratory (2, 3).

As with the innovation of hESCs, the latest scientific innovation of actively maturing experimentally engineered human beings has thrown humanity down an even steeper slippery slope. The scientists engaged in this research have rapidly mobilized to ethicize it. Their strategy for this effort was honed during the years of hESC research debates. As will be described, this strategy is to take advantage of the public's misperception that bioethicists are categorically concerned with ensuring that science and medicine proceed with a foundation in moral principles. However, many bioethicists who are associated with scientific organizations do not have this concern. Instead, the prominent ones who provide

exposés and perspectives on the ethics of these new developments in research involving experimentation on embryonic human beings do not act as objective, neutral analysts of the ethical permissibility of the research, as often misperceived. They, in reality, are colluding collaborators with the scientists who work to charge forward with their experimentation in the absence of honest scrutiny of its moral implications for humanity.

Herein, the history of the 14-day rule is considered from the perspective of how the current time of controversy over experimentation with nascent human beings emerged from it. Special attention is given to the evolution of stakeholder and public attitudes within the tension between practicing scientists applying ethics rules and objecting groups applying principles of morality. In particular, the role that current-day bioethicists play in smoothing the affirmed 14-day rule slippery slope will be examined. Evidence is presented that they often collude with scientists to develop ethics statements with the purpose of enabling morally objectionable human experimentation. They achieve this ruse by developing a morass of irrelevant, distracting arguments, limiting their justification to attractive medical expediency, and ignoring principles of morality altogether.

1984 – The Warnock Report

The origin of the 14-day rule is not in the basic research of embryonic human beings. Instead, it is the outgrowth of concerns in the UK that rapidly emerging providers of assisted reproduction by *in vitro* fertilization (IVF), following the birth of Louise Brown in 1978, needed unified government oversight (4). In 1984, a benchmarking result of this growing concern was *The Report of the Committee of Inquiry into Human Fertilisation and Embryology* (4, 5). This report is commonly referred to as the *Warnock Report*, with reference to the chair of the committee, Dame Mary Warnock. In July of 1982, the UK government established the *Warnock Report* committee and tasked it to be an Inquiry,

"to examine the social, ethical and legal implications of recent, and potential developments in the field of human assisted reproduction." (6)

After two years of work, the committee rendered their report with a recommendation for the formation of a regulatory agency to provide review and regulation of IVF technology and associated human embryo research. In 1990, the Human Fertilisation and Embryology Authority (HFEA) was established and headquartered in London (4).

For the present discussion, it is highly noteworthy that the *Warnock Report* committee members concerned themselves foremost with the *morality* of assisted

reproduction and human embryological science (4), even though their stated charge refers only to ethical implications and not moral implications. This common exclusion of formal reference to morality, which is always pertinent in discourse and debate concerning human life and treatment, continues today in both academic and governmental representations of science. Despite its absence in the language of the charge for the committee's work, the preeminence of issues of morality in the minds of committee members is self-evident in the opening foreword of their report.

"5. We were therefore bound to take very seriously the feelings expressed in the evidence. And, as we have said, it would be idle to pretend that there is not a wide diversity in moral feelings, whether these arise from religious, philosophical or humanist beliefs. What is common (and this too we have discovered from the evidence) is that people generally want ***some principles or other*** to govern the development and use of the new techniques. There must be ***some*** barriers that are not to be crossed, ***some*** limits fixed, beyond which people must not be allowed to go. Nor is such a wish for containment a mere whim or fancy. The very existence of morality depends on it. A society which had no inhibiting limits, especially in the areas with which we have been concerned, questions of birth and death, of the setting up of families, and the valuing of human life, would be a society without moral scruples. ***And this nobody wants***." (7)

This philosophical bearing advising the importance of considerations of morality in the foreword of the *Warnock Report* is the outcome of the deliberations of a professionally diverse body of men and women who declared their intent to operate at a plane above their personal beliefs and personal feelings in order to find the most agreeable basis for the arguments that would culminate in the conclusions of their inquiry and their consequent recommendations for their government and fellow citizens. Their report emphasized their attention to their belief that their collective diversity of attitudes and feelings about the focus of their inquiry was a good representation of the diversity of the perspectives in the greater public. Their stated attempt was "*to give due consideration both to public and to private morality*" (8). This bearing toward morality, instead of "ethics", is the fundamental guidance that courses throughout the *Warnock Report*.

Unlike more recent usages of scientific ethics, and more specifically "bioethics," to evaluate the permissibility of experimentation with embryonic human beings and make general recommendations to the public regarding its reasonableness, the Warnock Committee held ethical assessments in careful regard. Their opening principle reads like a warning to be wary of how the ethics of professional groups might exclude considerations of morality or be at cross-purposes to morality perspectives.

"1. Our Inquiry was set up to examine, among other things, the ethical implications of new developments in the field. In common usage, the word "ethical" is not absolutely unambiguous. It is often used in the context, for example, of medical or legal ethics, to refer to professionally acceptable practice. We were obliged to interpret the concept of ethics in a less restricted way. We had to direct our attention not only to future practice and possible legislation, but to the principles on which such practices and such legislation would rest. (9)

The committee recognized that, of course, professional ethically acceptable practices might not equate to morally acceptable practices for *some*. But they also understood their evaluative charge and responsibility to be much greater than simply assessing how some individuals of moral bearing might view the acceptance of experimentation with embryonic human beings. Theirs was the responsibility of laying a principled foundation for future generations of the entire public by recommending the *moral* limits of allowable experimentation with nascent human beings.

A critical attribute of the Warnock Committee's time is that it was a decade after the 1973 *Roe v. Wade* decision in the US. In many ways, their clear moral positioning was possible because of their later existence in place and time. In their deliberations, the life and humanity of embryonic human beings were a given, not a manufactured question as in the *Roe v. Wade* US Supreme Court case. (10)

"Although the questions of when life or personhood begin appear to be questions of fact susceptible of straightforward answers, we hold that the answers to such questions in fact are complex amalgams of factual and moral judgements. Instead of trying to answer these questions directly we have therefore gone straight to the question of ***how it is right to treat the human embryo.*** We have considered what status ought to be accorded to the human embryo, and the answer we give must necessarily be in terms of ethical or moral principles." (11)

Acknowledging that all sorts of complex ideas and notions might form the answers in their social sphere given in response to the questions of the life and humanity of embryonic human beings, they implicitly recognized, acknowledged, and affirmed that human embryos *were* living human beings.

The Warnock Committee began its analysis for "Human Embryos and Research" in Chapter 11 of its report with the foundation that there were three main reasons of importance, for an anxious public, to consider as the basis for permitting experimentation with embryonic human beings: 1) the originating infertility treatment research; 2) the related research potential for making discoveries to reduce, prevent, or heal birth defects;

and 3) the ever-present, utilitarian justification for all scientific investigation, for the pursuit of human knowledge. Resolving the moral and ethical permissibility based on the third reason was the singular point of contention on which the Committee spent its energy in Chapter 11. The Committee's final resolution of this contention was the 14-day rule. However, the development of the 14-day rule, as related by the Committee in its report, is not an exercise in compromise. Instead, it was an edict; and both the 14-day rule edict and the language in which the Committee shrouded it have echoed worldwide over the past nearly four decades of an ongoing public conflict over the moral trespass against nascent human beings who are injured and killed in research pronounced to be ethical by the scientists pursuing it.

The Warnock Committee Legacy: Humanity Without Privacy

A first student of the *Warnock Report* must be perplexed at this point. Given the impressive humility with which the Committee opens up its report – with affirming respectful attention given to morally principled concerns about the use and treatment of embryonic human beings during practices to alleviate infertility – how did the same group end the report with a recommendation of the 14-day rule for human experimentation? The answer is with no written path of reasoning and with significant division among the Committee, manifested by formal written dissent by several members. Overall, seven of the 16 Committee members wrote, for the record, dissents from the recommendation that the government allow embryonic human beings to be produced for the purpose of research, withholding their moral right to develop into mature human beings. Three of these members went further, writing in dissent that *no* embryonic human beings should be deprived of their right to maturation as a result of use for research, neither "spare" embryonic human beings conceived by IVF for the intent of procreation, nor embryonic human beings conceived by any means with only the intent to be used as research subjects for experimentation.

Chapter 11 of the Warnock Committee embodies the legacy of the 14-day rule. With the advantage of retrospect, given the nature of the Committee's final recommendations for the *ethical* permissibility of experimentation with embryonic human beings, it is a plausible conclusion that the report's opening text given to moral considerations was only a tactic, a political device. The sentiments of the foreword are not for the benefit of the subsequently well-addressed public concerns for potential difficult social situations that might emerge from the IVF industry. Though many of these concerns, which are considered comprehensively in the many other chapters of the report, are certainly challenging socially and legally, and even sometimes morally troubling, none of them are continuous with the contents of Chapter 11.

The Committee's attention to morality in the opening pages of their report can be viewed as a subterfuge of their actual intent that manifests abruptly and powerfully in Chapter 11. Chapter 11 departs from the social and legal complexities and worries of IVF to an independent purpose. It considers whether it is permissible for embryonic human beings conceived by IVF to be used for another purpose other than their own maturation, and specifically for use in scientific experimentation. The assenting Committee members' writing in the report tells that their position was already decided. After their foreword embracing the application of moral principles and their clear affirmation of the humanity of embryonic human beings, their next sentence states that applying an ethical *versus* a moral basis for permissibility is an *option*. They wrote, "We have considered what status ought to be accorded to the human embryo, and the answer we give must necessarily be in terms of ethical ***or*** moral principles." (11) They then proceeded to ignore moral reasoning altogether and instead assert and apply the "ethical" principles that survive today.

Throughout the report, the format used by the Committee is one of objectively outlining *pro* and *con* arguments for a considered permission. For many of the earlier chapters' arguments considered regarding IVF practices, there is analysis of the arguments' strengths and weaknesses. Remarkably, for the arguments considered against and for the use of embryonic human beings for experimentation, no such analysis is provided. The Committee does not reveal in its report the reasoning that led it to make the recommendations that it did. A reader is only left to conclude that they thought the arguments for use were more compelling than the ones for restraint. Those arguments for the use of embryonic human beings as research subjects left a legacy of concepts and language that continues to effectively muddle the moral debate on the permissibility of experimentation on embryonic human beings today. They were especially prominent during past years in debates over hESC research and human cloning. The validity of ideas and language, like "It is simply a collection of cells…"; "a potential person;" and "A human embryo cannot be thought of as a person" (12), was neither considered nor weighed by the Warnock Committee, but these assertions were *de facto* affirmed for the rest of history because of the Committee's final recommendations.

The committee made the following final recommendations for a future licensing body and its functions that are most pertinent to the present discussion:

"11. Research conducted on human in vitro embryos and the handling of such embryos should be permitted only under license.

12. No live human embryo derived from in vitro fertilisation, whether frozen or unfrozen, may be kept alive, if not transferred to a woman beyond fourteen days after

fertilisation, nor may it be used as a research subject beyond fourteen days after fertilisation. This fourteen-day period does not include any time during which the embryo may have been frozen." (13)

"42. The embryo of the human species should be afforded some protection in law.

…

44. Legislation should provide that research may be carried out on any embryo resulting from in vitro fertilisation, whatever its provenance, up to the end of the fourteenth day after fertilisation, but subject to all other restrictions as may be imposed by the licensing body." (14)

The crucial opposing argument listed by the Committee, and then ignored by them, was the fundamental moral principle that the worth of human lives exceeds any real or imagined benefits that their induced or allowed injury or death result in for others. Although the Committee never writes that "the ends justify the means," they implicitly endorse and promote a utilitarian philosophy that the potential for an increase in human knowledge and flourishing is sufficient ethical justification for experimentation with embryonic human beings. Recommendation 44 opens the door to experimentally producing embryonic human beings solely for the purpose of research with them (*i.e.*, "whatever its provenance"). In the final analysis, the Committee does not discount the human life of embryonic human beings. However, without explanation, it does not affirm their moral right to protection from harm. It allows that a human life does begin at conception, but not its legal right to physical privacy.

In its 42nd recommendation, the Warnock Committee allows that embryonic human beings "should be afforded some protection in law". This recommendation follows their earlier exposé in Chapter 11 ("*The legal position"* 11.17; 12) describing the lack of UK laws that would allow embryonic human beings legal standing and thereby equal protection under the law as provided to born children and adults. Here again, the Committee reveals its prejudice:

"11.17 Although, therefore, the law provides a measure of protection for the human embryo in vivo it is clear that the human embryo under our definition of the term (1.4) is not, under the present law in the UK, accorded the same status as a living child or an adult, nor do we necessarily wish it to be accorded that same status." (12)

According embryonic human beings the same status would have been in abject conflict with the Committee's self-evident purpose of establishing guidelines for permissible experimentation with embryonic human beings. From the foundation of legal ideologies and recommendations made by the Warnock Committee, in many countries, like

the UK and US as leading examples, a whole new discipline of law practice and laws have been established that regulate the ownership and disposition of embryonic human beings conceived for assisted reproduction, including their inheritance rights if they mature to birth. However, the Committee's enduring legacy is promoting a perennial avoidance of the argument that, in the law, recognition as a human life and the right to privacy should never be separable. As embryonic human beings are acknowledged to be living human beings, they have a moral right to both life and physical privacy, the moral right for the state to protect them from bodily harm done without their consent, whether or not they are sufficiently mature to give it.

In its formulation, the 14-day rule is an ethics oxymoron. The protection in the law that the Committee recommended safeguarded embryonic human beings from experimental manipulation *after* 14 days, a time when *none* would ever be matured under the law. No protection is needed for human beings who would never exist *in vitro*. However, for 14 days of their lives, the Committee recommended that injurious experimentation be allowed for nascent human beings whose humanity they openly acknowledged. At the time the Committee made this recommendation, IVF technology was in its infancy. It would be another 14 years before the extent of maturation of embryonic human beings *in vitro* was sufficient to motivate their destruction for the production of hESCs. But the Warnock Committee was not naïve to the troubling future the never-ending march of science and technology might wreak from their act of leaving embryonic human beings so unprotected, without the right to privacy under the law. They considered:

"11.27 There is a further argument that if it is once thought permissible to allow embryos to come into being with the sole intention that they be used for research, this would open the way for an ever-increasing use of human embryos for routine and less valid research, whatever may have been the original intention of regulation. Once a foot is set on the "**slippery slope**" of deliberate creation of embryos, no end can be set to the dangers." (15)

However, they ignored these dangers, which were first visited upon humanity with the onset of hESC research; and now more horrifically with the endorsement and promotion by scientific agencies like the International Society of Stem Cell Research (ISSCR) of experimentation with nascent human beings beyond 14 days of their maturation.

Dissenting members of the Committee gave more substance to the future dangers. They foresaw and forewarned that the usage "spare embryos" (16), for referring to embryonic human beings produced by IVF but not implanted, would become enabling euphemistic language in the future that worked to permit increasing injuries to embryonic

human beings. The hESC debate bore out their correctness in this prediction. Dissenting members predicted a future slide down the slope that is now the present. Regarding their concern for the future of "spare embryos" research, they wrote:

"9. Moreover as the number provided by this means would not meet the large demand foreseen by our colleagues the pressure for permission to create embryos specifically for research would grow. Likewise, limitations on the time and type of research would be eroded. Already voices are being raised for research to be permitted to a point beyond the fourteenth day after fertilisation recommended by this Inquiry. Similarly, if the use of embryos for testing of drugs, albeit under exceptional circumstances (12.8) were to be permitted, it would be difficult to maintain the limitation. Large numbers of new drugs are developed every year, many of which might be suitable for use by pregnant women. If a few were to be tested on embryos the demand for more to be screened in this way would inevitably grow. We conclude that experimentation on embryos is not only unethical in principle but that the consequences of granting even limited permission for experimentation would be such as to lead inevitably to extensive use of embryos for this purpose." (16)

Dissenting members of the Committee not only recognized these future dangers, but they also wrote to prevent them based on moral principles.

"Infertility can be a heavy burden for an individual couple; it is right that efforts should be made to alleviate it. This does not however justify the use of any possible means. The advance of scientific knowledge is likewise of great value but again does not justify the use of any means. Because embryos have the potential to become human persons neither the relief of infertility nor the advance of knowledge justifies their deliberate destruction." (16)

They closed their dissent with a clear principle for posterity.

"10. We therefore recommend that the embryo of the human species be afforded special protection in law." (16)

That special protection is physical privacy, the right by virtue of being a member of the human species and its humanity to be protected from imposed or allowed injury or death for any reason, including for the advance of human knowledge to end human suffering. Thirty-seven years later, this crucial moral recommendation for humanity continues to be overshadowed by the legacy of the embodiment of the opposing ethic, the 14-day rule.

The Co-optation of Bioethics

The Warnock Committee differs in a singular, fundamental aspect from more recent professional committees assembled to evaluate and develop guidelines for the use of nascent human beings as experimental research subjects. As leading examples, recent committees convened by the US National Academy of Sciences (NAS; 17), the US National Institutes of Health (NIH; 18), and most recently the ISSCR (1) have lauded themselves for also including non-scientist members, and in particular bioethicists. However, the important distinction is that these committees are organized and shepherded by the leadership of the agencies and organizations of scientists who wish to conduct experiments with nascent human beings.

The detrimental impact and consequences for humanity caused by this distinction cannot be emphasized enough. In many cases the involved bioethicists are not impartial members, as they are often misrepresented to be to the public and misperceived to be by the public. Unlike the dissenting perspectives issued from members of the Warnock Committee, subsequent professional committees do not include a formal process for dissent. They are inherently a consensus group because of the nature of their construction and their specific purpose. The non-scientist members are brought in to inform and warn the scientists of "*ethical, legal, and social implications*" quagmires and how to avoid them; and the engaged bioethicists are themselves sometimes members of the convening scientific organization. The sole issue they should evaluate and advise on, from an objective point of view, is not *whether* experiments with nascent human beings are morally permissible. Instead, their enlistment is to advise on how to best go about ensuring governmental and social allowances for the experimentation. They are very often collaborators, not independent impartial advisors, and certainly not neutral sergeants at arms for good ethics practice and procedures. Unlike the Warnock Committee, more recent committees make no pretense about considering moral principles. They stick strictly to defining "ethics" and "bioethics" devised to justify allowances for the research to proceed.

The acronym, ELSI, for "ethical, legal, and social implications" is commonly adorned as a badge by proponent scientists when they propose morally questionable human research. Its usage often serves to assure specific public interests (*e.g*., elected officials, religious groups, social justice organizations) that the scientists and their agencies are sensitive to and caring about how their activities may negatively impact the public, their mores, their lives, and their social sensibilities. Articles of this type were published by scientists and enabling bioethicists in the ISSCR's organizational scientific journal to smooth the way to acceptance of recent guidelines issued by the ISSCR recommending

revoking the 14-day rule to allow experimentation with nascent human beings to later ages (19-21).

Another significant distinction between the Warnock Committee and more recent advisory committees for evaluating the permissibility of experimentation with nascent human beings is the motivation for convening them. Four years after IVF technology had achieved proof of concept with the birth of Louise Brown, the Warnock Committee was anticipating where the technology might lead. The Warnock Committee report shares this anticipatory character with the Dickey-Wicker Amendment in the US, which will be described below. More recent committees like those of the NAS (17), NIH (18) and ISSCR (1) have been convened by these scientist agencies and organizations when their members were already pursuing a new advance in technology that crossed previously established lines of moral trespass. These committees were assembled by scientific organizations for the purpose of mediation of their controversial human experimentation activity against public outcry. Their purpose was not to evaluate the moral permissibility of the new form of experimentation, but instead to establish ethics for enabling it. That is the intention that this article addresses. In 2021, the Task Force to Update the ISSCR Guidelines on Stem Cell Research and Clinical Translation (1), recently convened by the ISSCR, expeditiously dispatched ethical guidelines for continuing the slide down the Warnock Committee's slippery slope of the 14-day rule. Their assembly and action were motivated by very recent technological advances (2, 3) indicating that science now proved in was possible to mature embryonic human beings, *in vitro*, up to and beyond the long-standing limit of 14 days of development.

Although an organization of international scientists, the ISSCR was founded by U.S. scientists who continue to dominate its leadership. Unlike the ISSCR Task Force, the Warnock Committee was convened to consider the potential consequences of experimentation with embryonic human beings conceived by IVF and to recommend limits and strategies for regulating such activities by both government and private agents. The HFEA is their legacy that continues to provide such government oversight, albeit guided by the 14-day rule of the *Warnock Report*. As will be discussed later, the mission of the ISSCR Task Force could not be more different.

1996 – The Dickey-Wicker Amendment, an Essential Barrier on the 14-day Rule Slippery Slope in the United States

In contrast to the UK, the history of regulation of experimentation with nascent human beings in the U.S. begins with recommendations by government scientists (22). Though highly permissive in nature, their actions, led by scientists at the NIH beginning in

the early 70's, were largely thwarted for 16 years by subsequent legislative actions in the U.S. Congress created to regulate experimentation with nascent human beings. By law, experimentation with embryonic human beings was prohibited without the review and approval of a government advisory committee, which unlike HFEA in the UK was never assembled and authorized. In 1993, U.S. President Bill Clinton planned to remove this barrier by introducing legislation that would allow federal funding of experimentation with embryonic human beings. In 1994, a decade after the *Warnock Report*, this legislative roadblock seemed destined to open when a government-sanctioned NIH Panel on Human Embryonic Research issued a report adopting the allowances of the *Warnock Report* for government funding of experimentation research with nascent human beings. However, on the same day of the approval of the recommendations of the report, President Clinton intervened and mandated additional review regarding the moral permissibility of experimentation with embryonic human beings, in particular the issue of whether it was a moral trespass to conceive embryonic human beings solely for the purpose of using them for experimentation (23). This presidential action led to Congressional hearings that ultimately resulted in a new law in 1996 called the Dickey-Wicker Amendment, named for its two congressional authors (24).

The Dickey-Wicker Amendment continues as law today in the US. However, it only regulates what type of research can be funded by the US government. It does not restrict the application of the Warnock Committee practices in the US private sector. Therefore, research using nascent human embryos can proceed with non-federal and private funds. However, in the U.S., the practices of the NIH are a major determinant of scientific research conduct and practice in general, so that NIH practice has been the main lens that has magnified controversy over the permissibility of research with embryonic human beings. The intervention of the Clinton administration set a precedent for interventions by U.S. presidents into moral and ethical debates on the permissibility of exploiting nascent human beings as subjects for experimentation. In 2001, President George W. Bush placed a moratorium on funding research that destroyed embryonic human beings for the purpose of producing new hESC lines; but in 2009 President Barack Obama reversed this position. In the latter case, the Dickey-Wicker Amendment was not upheld in court cases that challenged the Obama mandate (10). As a result of these verdicts, the U.S. government is currently allowed to fund research with hESCs as long as the hESCs were not produced with federal funding. More recently, in 2020, the administration of President Donald Trump assembled an advisory committee of scientists, theologians, clergy, legal experts, and bioethicists to review scientifically approved NIH grant applications for research involving human fetuses, evaluate whether they were ethically sound, and make funding recommendations. In 2021, newly inaugurated President Joe Biden disbanded the advisory committee.

Despite its failure to prevent the killing of embryonic human beings for the production of hESCs, in the U.S., the Dickey-Wicker Amendment continues to be the stalwart barrier on the slippery slope of the Warnock Committee's 14-day rule and ISSCR guidelines of "no limit". Its authors were also prescient in not only restricting federal funding of scientific experimentation with nascent human beings conceived by IVF, but also with those conceived by emerging experimental technologies involving human eggs and sperm or cells from non-reproductive organs and tissues of the body. As will be discussed in the next section, this prescience may also prove to be the precedent that keeps the 14-day rule slope closed in the U.S., even as it presently increases in openness and steepness in other countries. So, while in the UK the HFEA licensed the conception of human beings by cloning for the production of hESCs and allowed experimentation to produce hybrid human-animal embryos (which have all proved defective for completing maturation), U.S. scientists could only do so with private funds. This congressionally mandated funding restriction effectively closed the door on experimentation with nascent human beings in the U.S. for the past 25 years. Now recent advances in experimentation with embryonic human beings in other countries have brought the wolves back to this door with new hopes of finally opening the slippery slopes of experimentation with embryonic human beings in the U.S., too.

2021 – Messaging Away the Moral Trespass: Covering Over Embryonic Human Beings as "Embryo Models" and "Embryoids"

In 1998, when the first reports were published of the production of hESCs through the disruption and death of embryonic human beings, the ISSCR did not exist. It was founded by US scientists in 2002 to promote research with hESCs worldwide, with a particular focus on securing and ensuring continued federal funding of hESC research in the U.S.. Now touting more than 4,000 members from more than 65 countries (25), including highly prominent scientists, the ISSCR is a major driver of both professional and public opinion regarding research that involves the use of nascent and unborn human beings as experimentation subjects or sources of research materials like tissues and cells from electively aborted fetal human beings.

In 2006 and 2008, the ISSCR leadership issued successive public guidelines with statements of their ethical justification of research with nascent human beings and clinical applications of the research, *Guidelines for the Conduct of Human Embryonic Stem Cell Research* (26) and *Guidelines for the Clinical Translation of Stem Cells* (27), respectively. Like the related guidelines issued by the NAS (2005; 17) and NIH (2009; 18), the *ISSCR Guidelines* begin with the position that it is morally permissible to sacrifice embryonic

human beings for the production of hESCs. Like the guideline documents from the leadership of the other scientific organizations, no arguments, philosophical or scientific, were offered to account for or justify this position. Instead, the language of the *ISSCR Guidelines* exalts the utilitarian ethic that the increase in human knowledge from experimentation with human beings, who cannot consent for themselves, is sufficient ethical justification for allowing the moral trespasses that the research entails.

Throughout its history, the ISSCR leadership's development of ethical guidelines has been prompted by their concern that their pursuit of a new technological advance for experimentation on nascent human beings would be recognized as morally reprehensible and, thereafter, prohibited. The original 2006 and 2008 *ISSCR Guidelines* had the purpose of promoting stated ethical justifications for research that required the death of the embryonic human beings in large numbers. An update in 2016, the ISSCR's *Guidelines for Stem Cell Research and Clinical Translation* (28), combined the initial guidelines and continued to promote and ensure scientists' ability to produce hESCs by the destruction embryonic human beings, despite the development and availability of alternative human induced pluripotent stem cells (**iPSCs**) as early as 2007 (29).

The most recent 2021 update of the ISSCR *Guidelines for Stem Cell Research and Clinical Translation* (1) has the same self-preservation motive as previous *ISSCR Guidelines*. It was published in May of 2021 after 18 months of work by the ISSCR's Task Force to Update the ISSCR Guidelines on Stem Cell Research and Clinical Translation (30). This timeline shows how the ISSCR leadership's move to breach the current 14-day rule was motivated by their knowledge of a new technological advance, which for the first time made it possible for scientists to explore the *in vitro* maturation of nascent human beings up to and beyond 14 days of age. The Task Force set to work *before* the two critical scientific reports were submitted for journal review on May 24, 2020 (2) and August 24, 2020 (3); and the authors for both reports cite the 2016 *ISSCR Guidelines* as the ethics authority for their studies.

The basis for the excitement of scientists with the recent advances in scientific technologies that increase the extent of human embryonic development *in vitro* is manifold. Although the new technologies also include the use of hESCs, a predictable irony is that iPSCs figure prominently in the new methods. Nobel Laureate Shinya Yamanaka states that he sought to develop iPSCs as a moral alternative to hESCs (31). However, because iPSCs are reproductively equivalent to hESCs, they also possess hESCs' latent ability to undergo conception into embryonic human beings if provided effective supporting cells within an inductive physiological environment. This capability was previously shown for mouse ESCs by a process called tetraploid complementation. To date, tetraploid complementation research with human iPSCs has been categorically shunned and prohibited by hESC

research scientists themselves. The reason given for this voluntary self-policing is that this technology might be misused to clone humans for reproduction (32). However, now seeing ISSCR scientists' aggressive actions to rescind the 14-day rule, the actual reason for their purported restraint was more likely to have been their disinterest because tetraploid complementation produced malformed and defective embryos that were not useful for experimentation.

Now scientists have discovered how literally to *assemble* embryonic human beings who mature *in vitro* to much later ages than previously, up to the 14-day age of maturation and potentially beyond. Though not publicized by the scientists leading the charge to end the 14-day rule, embryonic human beings conceived by *in vitro* assembly are also clones. They could be used for reproductive cloning much more effectively than the defective human beings who might have been conceived by tetraploid complementation. Yet, neither endorsing scientists nor their collaborating bioethicists speak of this seeming contradiction between their past rhetoric and now present behavior. As suggested earlier, the contradiction is only an apparent one, because the prime directive of proponent scientists and bioethicists is neither ethics nor moral principles. It is an amour for the unapologetic pursuit of science. Now that it is technically possible to more effectively grow embryonic human beings to later stages of maturation *in vitro*, pursing scientists are clamoring to do it, even if it also opens a new slippery slope to reproductive cloning. The ISSCR leadership continues to denounce reproductive cloning as abhorrent and never being justifiable. However, now that 14-day or later experimentation is possible, concern that it might enable reproductive cloning is no longer a sufficient reason for self-policing against pursuing it.

The new ISSCR *Guidelines* continue to list the promises of the times of the Warnock Committee as the justification for pursuing this new form of human experimentation. They offer that this latest advance in human embryo research may lead to better ways of addressing infertility and preventing and treating birth defects. However, what the general public may not appreciate is that this new *in vitro* assembly capability is beyond exciting for the scientists promoting it. It opens the way to powerful investigatory strategies. They can manipulate parts of nascent human beings' bodies and evaluate how their development is affected. They can modify the genes of cells and incorporate them into the bodies of nascent human beings to learn about genetic defects. They envision discovering how to skip early stages of human beings' development to accelerate maturation stages when specific organs needed for transplantation medicine are produced. This promise for one day addressing the growing scarcity of donor organs for waiting transplant recipients is a major knowledge carrot in the utilitarian ethics developed and offered by ISSCR scientists and bioethicists to justify to the public their plan to end the 14-day rule.

Because nascent human beings conceived from iPSCs are "parentless" and greatly displaced from any mature human being relatives, their humanness and humanity are more readily dismissed by scientists; and it may go unacknowledged or even unrecognized by some. The type of experimentation that is now possible can make it impossible to trace the exact heritage of nascent human being research subjects conceived and destroyed in laboratories. As a result, many nascent human beings would die in this research with little or no regard for their humanity. The use of iPSC technology in this way is a revealing irony that Shinja Yamanaka may not have envisioned. This development highlights the second edge of the blade of human science and technology. The ISSCR leadership of scientists and bioethicists advance their ethical justification of science and technology with its bright edge of knowledge, and they work together to cover over its darker edge of moral trespass against humanity.

The intent and methods of the ISSCR leadership are out in the open. Years of practice have emboldened them in their approach of steering public attention away from moral concerns by profuse messaging that professes future medical benefits achieved through ethical science. The approach has two main strategies. The first strategy is to cast the public debate as one of ethics instead of one of moral principles, with repeated messaging of the utilitarian ethic that there are few, if indeed any, valid reasons for placing limitations on the pursuit of scientific knowledge that leads to desired medical advances. The second strategy is to assert and control the language of the public debate, especially in ways that confuse or mask the humanity of nascent human beings.

The first strategy is to remove "morality" from the discussion, quite evident from a rather simple inspection of the text of the lineage of *ISSCR Guidelines*. In the *Warnock Report*, words with the root "moral" (*i.e.*, moral, morally, morality, morals) occur 48 times, whereas those with the root "ethic" (*i.e.*, ethics, ethical, ethically) appear only 27 times. A similar analysis of *ISSCR Guidelines* reveals quite a different bearing and representation. In the 2006 *ISSCR Guidelines*, although words with the root "ethic" appear 34 times, "moral" only appears once. There are *no* occurrences of the word "moral" or any derivative words in the 2008 *ISSCR Guidelines*. The 2016 *ISSCR Guidelines* show 2 occurrences of words with the root "moral," but 63 with the root "ethic."

The 2006 and 2016 guidelines share the same usage of "moral" in the following recommendation for participants to include in "a specialized human embryo research oversight (EMRO) process capable of evaluating the unique aspects of the science" (28).

"b. Ethicists with ability to interpret the **moral** justifications for and implications of the research under consideration." (28)

The stated need for ethicists in the prescribed specialized oversight process is *not* as neutral parties to inform discussion on whether human embryo research is morally, or for that matter even ethically, permissible. Instead, they are brought into the process to "*interpret the moral justifications…for the research under consideration*," a calling that presumes that the research is already morally justified, when in fact its immoral basis is never evaluated in the harboring guidelines. Finally, the 2021 *ISSCR Guidelines*, which are the main focus of scrutiny here, show 76 occurrences of the words "ethical" or "ethically." However, there are still only 2 occurrences of "moral." Moreover, the above recommendation for including even pre-biased ethicists has been removed, signaling the ISSCR leadership's abandonment altogether of any pretense of acknowledging moral principles that would disallow research that exploits and kills its human research subjects.

The second strategy in the ISSCR leadership's approach to assuaging public concern is deploying scientific descriptions of nascent human research subjects that serve to diminish or obscure their humanity. Undervaluing or denying a human being's humanity is a well-worn tactic for ethical justification of immoral egregious acts. Tragically, humanity has a long, tearful history of such atrocities including slavery, genocide, lynching, sterilization, abortion, and embryonic stem cell research. The very usage of the academic scientific term "embryo" is a naming choice that acts to understate the humanity of embryonic human beings. "Embryo research" does do not evoke the same degree of attention and care as "human subjects research," which is the term applied to experimentation with more mature human beings who can give or withhold consent. Whether originally intended or not, the usage of the term "embryo" began the dehumanization of embryonic human beings used in scientific research.

Early in the news reporting and public debates on hESC research, both proponent scientists and their collaborating bioethicists actively conflated "embryo" with the misleading conceptualization of being unalive and non-human. They did this both directly and indirectly by feigning scientific uncertainty about the humanity of the embryonic human beings who were being destroyed for the pursuit of hESC research (33). Instead of providing lawmakers and the general public accurate scientific information on the biological basis of the humanness of nascent human beings, they excluded addressing this most important character from all of their published guidelines and commentaries to news media. In their current move to end the 14-day rule, the same tactics with similar intensity are applied.

The current strategy is never to refer to *in vitro* conceived nascent human beings as "embryos." During the past twenty years, members of the scientific community itself, religious groups, and the general public have continued to protest the exploitation and killing of nascent human beings for hESC research. This activism has contributed to a

public awareness that is better informed that "embryos" are living human beings. As such, those now pushing for experimentation beyond the 14-day rule realize that keeping that name would not serve their interests. ISSCR scientists and their bioethicist collaborators now openly write and speak about how to devise and introduce language to the public that will understate and obscure the humanity of the human subjects in their new research. Terms like "embryo models" and "embyroids" (meaning embryo-like) are being introduced that create the suggestion that somehow nascent human beings who are artificially made, synthesized, assembled, genetically engineered, or modified *in vitro* are not actually authentic human embryos (1, 20, 21, 30). When in fact, they are. The oxymoronic character of this strategy underlines the depth of the deceit of the public. Although ISSCR scientists and bioethicists refuse to call their newly conceived research subjects "human embryos," or even just "embryos," it is precisely this character that they wish to exploit. What the public needs to understand is that, whether called "embryo models" or "embryoids," these experimentally conceived research subjects are living nascent human beings. They meet all the scientific criteria for this biological status. They are living, because they take up energy, in the form of provided nutrients, and convert it into their autonomous growth and development. They are human beings, because they are formed with the unique DNA of the human species, which is distinctive from all other organisms, plant or animal, on planet Earth.

Similarly insistent scientists tried to use an analogous tactic during the debates over hESC research. They proposed a strategy of producing hESCs from cloned embryos that they had engineered to die prematurely (34). Because the engineered cloned embryos would die spontaneously, whether or not they were used to make hESCs, the proposing scientists offered a similar suggestion to the one now offered by present ISSCR scientists and bioethicists. The earlier scientists would have had everyone accept that somehow the cloned embryos, which they themselves engineered with traits that caused premature death, would not be humanly equivalent to viable embryos conceived by IVF. The sleight of ideas they tried was to misrepresent biological inequivalence as moral inequivalence. Now as then, such ideas may be presented as ethically acceptable, but they are also most certainly morally indefensible.

Closing the Slippery Slope of Experimentation with Embryonic Human Beings

If history is prescient, it is very likely that the HFEA will soon rescind the 14-day rule in the UK and permit experimentation with the aim of achieving more advanced ages of development with *in vitro* assembled embryonic human beings as recommended by the newly crafted ISSCR *2021 Guidelines*, which recommend (1):

"Recommendation 2.2.2.1: Given advancements in human embryo culture, and the potential for such research to yield beneficial knowledge that promotes human health and well-being, the ISSCR calls for national academies of science, academic societies, funders, and regulators to lead public conversations touching on the scientific significance as well as the societal and ethical issues raised by allowing such research. Should broad public support be achieved within a jurisdiction, and if local policies and regulations permit, a specialized scientific and ethical oversight process could weigh whether the scientific objectives necessitate and justify the time in culture beyond 14 days, ensuring that only a minimal number of embryos are used to achieve the research objectives."

On the surface of it, this recommendation, constructed by scientists *and* bioethicists, intimates transparency, social responsibility, and moral prudence. It displays transparent language with the usages "human embryo culture" and "embryo," even though accompanying articles in the ISSCR's scientific journal written by some of the same authors espouse the introduction of terms like "embryo models" and "embryoids" (21, 20). Deeper elements of the recommendation are cause for alarm that the 14-day rule's slippery slope, first manifested by the slide down to hESC research, is about to achieve its forewarned full potential by becoming an *N-day rule* , authorizing *ad hoc* committees to decide to allow any extent of experimentation that they justify for the sake of increasing scientific knowledge. "N" signifies that, in the future, any greater number in days of age might be decided for when experimentation with embryonic human beings must stop. The ISSCR's recommendation pre-weights those future committees with its guiding utilitarian ethic, that any extent of exploitation of nascent human beings can be ethically justified by the potential for medical benefits. As history has shown, without a truly public intervention, those committees will be led by proponent scientists and their collaborating bioethicists. These committees will attempt to commandeer the public discussion by leading "public conversations touching on the scientific significance as well as the societal and ethical issues raised by allowing such research," but without attention to or regard for moral principles of the humane treatment of human beings.

It would be unfair and wrong to portray all scientists as enshrining a monolithic utilitarian ethic that the ends of increasing scientific knowledge justify any means available, including actions that compromise or destroy the lives of some members of humanity. There are certainly many scientists who agree that science is at its best for humanity when it is moral as well as ethical in its principles, practices, and pursuits. However, although such scientists may also be members of the scientific organizations discussed, their dissenting voices are either unheard or rare among the public scientific leadership. An analysis of why the character of leadership of major scientific organizations is so lacking in moral-ethical balance is a treatment for another exposé. The leadership of life sciences organizations has not polled its membership on their perspectives, concerns, and positions

regarding the permissibility of experimentation with nascent human beings. Instead, they take the approach of sheep herding their members by setting-up panels to develop guidelines and then instituting them from their authority as either elected or appointed officers. One wonders what would occur if they required a majority vote from their members to approve the new guidelines that endorse an N-day rule for experimentation on embryonic human beings. Even if the guidelines were still approved, the vote count would be more informative for the public for independent deliberations.

While the establishment of an N-day rule may be inevitable in the UK and other nations, in the U.S. the effort must confront the Dickey-Wicker Amendment. The essential engine of the N-day rule, which is the *in vitro* assembly of embryonic human beings for experimental research, and for no other purpose, violates line 1 of the Dickey-Wicker Amendment:

"SEC. 509. (a) None of the funds made available in this Act may be used for-- (1) the creation of a human embryo or embryos for research purposes;" (24)

Equally important, the Dickey-Wicker Amendment anticipates all manner of experimental manipulations to achieve the conception of embryonic human beings by scientists:

"(b) For purposes of this section, the term `human embryo or embryos' includes any organism, not protected as a human subject under 45 CFR 46 as of the date of the enactment of this Act, that is derived by fertilization [6], parthenogenesis, cloning [7], or any other means from one or more human gametes or human diploid cells." (24)

Though nothing short of overturning the Dickey-Wicker Amendment should allow the U.S. government to fund N-day rule research, the current legislative environment allows it in the private sector. Therefore, extending the moral safeguard of the Dickey-Wicker Amendment to become general U.S. law will be necessary to completely close the slippery slope of an N-day rule in the U.S.

The treatment presented herein of the history of the 14-day rule and the consequences of its slippery slope, the proposal of a new N-day rule, ends by considering – though not arriving at an answer – the following crucial questions. How can the slippery slope of experimentation with embryonic human beings, with its history of ever-increasing steepness and slickness, be closed? By what means can moral principles hold back the raging beast of science and technology fed with the promise of medical gifting? In considering these questions, there is a fundamental conviction that the reason for closing the slope is for good. Even the Warnock Committee recognized that the weights considered

in this debate are not quantitative, but qualitative in nature, making ethical cost-benefit analyses inappropriate and even specious. The good of respectful and humane treatment of our individual fellow human beings, informed in modern times with the scientific confirmation that human beingness initiates with reproductive conception, is recognized by most. This include those who insist that this good is not an unmeasurable absolute moral principle, allowing them to then assign it a lower value for nascent human beings. There is another good, which some might consider of even greater societal significance, that is usually overlooked in this discourse. *A human society vested with the moral principle of always protecting its most vulnerable members creates and secures a better existence for all its members*. This good is lost in an aware society that allows harm to its weakest members for the benefit of the more powerful. Its absence engenders and licenses social attitudes and practices that erode charity and increase mistreatment, injury, and discord.

The greatest challenge to closing the N-day rule slippery slope is legalized elective abortion, which is presently allowed to claim the lives of more than 60 million children each year worldwide. The legalization of elective abortion in most nations of the world is fast approaching the half century mark, a long enough period of time for a large fraction of the population to have only lived in a world in which abortion was allowed. Somehow this normalization of abortion practice in human societies must be reversed before the N-rule slippery slope can be completely closed. With nations aware of such a deep and chronic inhumanity against their most vulnerable members, human societies are barren of the good from moral treatment of all of its youngest and most vulnerable members. In societies that do not acknowledge and respect the physical privacy of fetal children within their laws and medical practices, it seems a ridiculous request to scientists that they should respect the privacy of the even younger children who are conceived in their experiments. Scientists and bioethicists who promote the N-day rule do not mention this contradiction openly, even though it would seem to be of advantage for their arguments. However, they understand well how it implicitly confounds the thinking of many in the general public, in particular elected legislators. So, instead of openly pointing out the contradiction, they craft their arguments to implicitly take advantage of this confounding. The leadership of the ISSCR self-righteously assures that, although they plan to aggressively pursue experimentation that will cause injury and death to nascent human beings, the public can trust them not to allow their experimented subjects to mature fully, not in an animal, a surrogate human mother, or some futuristic *in vitro* device. This continuously deployed false dichotomy cast scientists as careful and concerned about morally troubling human engineering experimentation, which is worrying and undesirable to many. This strategy, which is enabled by the licensing effect of legalized abortion, allows the ISSCR leadership to distract attention away from equivalently morally troubling human engineering experimentation, namely N-day rule research.

As has been noted earlier, there are many ironies in the history of experimentation with nascent human beings. Among the more remarkable is the emergence of the 14-day rule itself, and now the N-day rule, out of the development of IVF, which had the purpose of procreation. IVF technology was devised for a desire to do good, initially to give infertile couples, and now even single individuals, an opportunity to become parents. Although the technology has grown into an industry with its own history of abuse, foibles, and issues of both moral and ethical concern, it has as its core purpose the good of the conception of human beings for reproduction. The Warnock Committee listed, as one of its main justifications for research with embryonic human beings conceived by IVF, the purpose of improving the safety and quality of IVF. The purpose was technology development science, instead of experimental science. However, at the same time the committee also opened the door for general scientific experimentation with the justification of increasing scientific knowledge. The 2021 ISSCR Task Force has extended that precedent with justifications based on gaining scientific knowledge about the nature of birth defects and for producing human organs for transplantation medicine. Two decades earlier, the justifications argued for the ethical permissibility of hESC research by some of the very same scientists and bioethicists followed this same formula.

At this point, the reader's conclusion may be that given the history of and the present state of the ideas that frame this discourse, closing the slippery slope to the adoption and legalization of N-day rule research will be quite impossible without also ending the scourge of legalized abortion in the world. The latter goal being formidable, as evidenced by a prolific parallel experience of individual parties and organizations fighting to overturn the laws that authorized abortion. However, there is another more optimistic perspective on the current history and condition. The alternative perspective is motivated by the history of how the activation of scientists and bioethicists in the hESC research debate led to an upsurge of public interest in the biological nature of nascent human beings and engagement by scientists to provide education. Although, as discussed earlier, some proponent scientists and their collaborating bioethicists spread misinformation, over the past two decades honest and accurate information has persisted and now permeates the ideas of many members of the public who participate in discourse on the moral permissibility of abortion and the constitutionality of its legalization. This accurate scientific knowledge and understanding is crucial to putting the evils of legalized abortion back into their box. The abortion box was not opened because of curiosity. It was opened to achieve a social expediency; and to do so legally and politically, morality and science were purposefully excluded. Since its opening, many other social, political, and economic factors hold the abortion box open; but moral principles informed by moral science can close it.

The final idea from this discussion is that closing the slope of the N-day rule has direct moral value; and it also can further educate the abortion debate, contributing to the end of the acceptance of the abortion of our children in our world and in our time. Closing the slope must take the form of continued education of the biological nature of nascent human beings and continued protest against their exploitation for scientific research. The world needs to hear from scientists and bioethicists that there are some means that cannot be justified by envisioned scientific knowledge or medical benefits. The public needs to be assured, and proponent scientists reminded, that a "super power" of science, which is the basis for its depth and richness, is finding alternative paths to the same knowledge goal. The development of iPSCs as a research alternative to hESCs is a timely and highly relevant example of this super power.

The countering effort suggested here will require the attention, responsibleness, and diligence of both scientists and bioethicists. The scientists needed are in the body of the general scientific community, and they are often not those recognized as leaders for guiding public opinion. They are rarely the scientists who lead their organizations and who, even when giving the appearance of self-policing, often have a different intent. As a case in point, there is a recent example of leading scientists announcing that they had come together to delay or prevent morally problematic research. Their highly touted moratorium was for experimentation for genetic engineering of nascent human beings that would result in heritable changes in them and their offspring. Going beyond their public assurances of self-prudence and reading their actual statements (35, 36), it becomes apparent that even though their current programs exclude such research (37), they have not ruled it out. By their own writing, the moratorium is not entered into to evaluate whether the research is morally permissible or even scientifically advisable. Instead, it is designed to assemble panels, led by adopting scientists and collaborating ethicists, to devise guidelines and regulations for proceeding with the research in a way that minimizes public concern and opposition. Their planned decision-making would continue the practice of determination by a small group of individuals, when in fact the issue at hand warrants a referendum process. Even if the research were still recommended by such a scientific democratic process, the public would benefit from being informed with a better representation of the scientific community's position and conscience. Scientists must demand such a representation process from the elected officers of their organizations. They will not be suggested voluntarily by their leaders.

If the recent case history of the Dickey-Wicker Amendment repeats, it will take more than scientists alone to achieve the closure of the slippery slopes of the 14-day rule and N-day rule. Better education of the public about the nature and moral significance of early human life will help to tip the balance of utilitarianism in governmental regulation to humane regard for the physical privacy of embryonic human beings. The expertise of

bioethicists is critical for this endeavor, too. Thus far in this analysis, as a professional discipline, bioethics has been discussed in a worst light, when it collaborates with science while falsely representing itself as an impartial or neutral perspective that can facilitate a balanced discourse on highly complex moral and ethical problems. However, in the better light of academic analysis, providing methods, principles, and concepts for mutually respectful debate of competing social values and positions, the guiding impartial bioethicist can facilitate the achievement of more valid debate proceedings. There is a large community of such able professionals, but like the body of scientists, they are often not the ones engaged by the leadership of major scientific organizations who are guided by the perennially convenient utilitarian ethic of increasing scientific knowledge. Like the body of scientists, the body of ethicists are needed to stop standing by and permitting the co-optation of their discipline by a few of their number.

As legislative representatives of the public deliberate on how best to inform themselves and decide policies and regulations for current and future permissions for experimentation with nascent human beings, whether conceived in IVF clinics or experimental laboratories, the following essential principle is recommended to them. Improve on the foundational example set by the Warnock Committee and avoid the process transgressions committed by more recent committees and task forces of scientific organizations, whether composed of private scientists or government scientists. This principle can be achieved by adoption of the following specific recommendations:

I. First, assemble information gathering committees that are diverse demographically and diverse with expert representation of relevant experience from non-scientist disciplines, including religion, theology, philosophy, ethics, law, and electoral politics.

II. Enlist scientists and bioethicists whose position on the issue are publicly disclosed; and ensure that their representation on the committee is well-balanced for preexisting proponent, opponent, and neutral viewpoints.

III. Like the example of the Warnock Committee, the work of the committee should begin with gathering knowledge of the aspirations and the concerns of the wider public, by interviews with groups, the leadership of groups, and the members of groups who reflect the diverse fabric of a nation's society and life.

IV. A crucial charge to the committee must be that, in its deliberative process, moral principles and ethical principles are not treated as antagonists, but instead as equally valid and essential elements for inclusion in the discourse.

V. Finally, the committee's operations should include a formal mechanism for the expression of statements of dissent from the committee's final summary recommendations. Though it is most unlikely that any advisory committee deliberation of integrity can end with recommendations that please all, it is possible to have a committee with structure and process integrity that are recognized by all.

This recommended committee structure and process may still result in many nations adopting the N-day rule and keeping its slippery slope open into posterity. If that is our future, it will be even more important that it was fated by a diligent and transparent process that gathered relevant information from the public and weighed issues of moral trespass and ethical permissibility fully. It will be important that the public received recommendations that reflected a more faithful representation of the attitudes of their scientific community, and not just the adamant perspectives of a few select leaders of a few leading scientific institutions. Most critical, it is essential for both science and the public to have heard the dissenting perspectives, because their slippery slope alarms warn everyone about what, in the end, may harm us all.

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